

# THE MINERAL INDUSTRY OF NIGERIA

By Philip M. Mobbs

Nigeria was Africa's largest oil producer in 1996. According to the U.S. Department of Energy's Energy Information Administration, Nigeria ranked 11th in world production of crude petroleum by volume, accounting for about 3% of world production and about 8% of the Organization of Petroleum Exporting Countries' total production (Energy Information Administration, 1997a). The oil sector remained a mainstay of the Nigerian economy, providing about 80% of total Government revenues and accounting for more than 90% of the country's total export earnings. In 1995, the last year for which sector data are available, agriculture accounted for 38.5% and oil and gas accounted for 12.4% of the nation's gross domestic product (GDP) (OPEC Bulletin, 1996). In 1996, GDP was estimated to have grown 3.25% compared with a 2.2% growth rate in 1995 and inflation was down to 28% in 1996 compared with the 72.8% recorded in 1995 (Goldman, 1997a).

Mineral rights were held by the Federal Government. Several laws and associated regulations and amendments addressed mineral operations, including the Explosives Act of 1964, the Quarries Act of 1969, the Nigerian Mining Corporation Act of 1972, the Gold Trading Act of 1990, and the Investment Promotion Decree of 1995. Additional legislation, including the Oil Pipelines Act of 1956, the Land Use Act of 1978, the Associated Gas Re-Injection Act of 1979, and the Oil Mineral Producing Areas Development Commission Decree of 1992, regulated petroleum and natural gas operations.

Environmental guidelines or regulations included the Federal Environmental Protection Agency Act of 1988, the Effluent Limitation Regulations of 1991, the Pollution Abatement Regulations of 1991, the Pollution Control Guidelines of 1991, the Solid and Hazardous Waste Regulations of 1991, the Environmental Impact Assessment Decree of 1992, the Federal Environmental Protection Agency (amendment) Decree of 1992, and the Harmful Waste Act of 1992.

The Ministry of Solid Minerals Development was involved in the promotion, exploration, and exploitation of Nigeria's solid minerals. (See table 1.) The Ministry of Petroleum Resources concerned itself with the oil and natural gas segment of the mineral industry. Environmental regulations were administered by The Federal Environmental Protection Agency and the Department of Petroleum Resources of the Ministry of Petroleum Resources.

The ubiquitous Nigerian advanced-fee fraud was undermining the credibility of a number of Nigerian agencies, especially Nigerian National Petroleum Corp. (NNPC) and the Central Bank. The notorious worldwide scam, also known as 419 fraud, named for the applicable section of Nigerian criminal

code, typically proposed to temporarily transfer large amounts of money, usually alleged to be diverted from bribes, kickbacks, or NNPC contracts, to the victim's bank account in return for a significant fee (U.S. Trade Representative, 1997; Washington Post, 1997).

Nigeria was the fifth largest source of imported crude oil to the United States. Exporting approximately 218 million barrels to the United States in 1996, Nigeria accounted for 8% of the United States total crude oil imports, trailing only Venezuela, Saudi Arabia, Mexico, and Canada, in order of volume (Energy Information Administration, 1997b, p. 278-301). The United States continued to be the largest importer of Nigerian crude oils, accounting for about 34% of the country's crude oil and petroleum products exports in 1996. Other major consumers of Nigerian crude were France, the Netherlands, Spain, and the Economic Community of West African States member countries. Nigerian mineral exports also included coal, tin, and some industrial minerals.

The Government was determined to attract foreign investment, especially in the solid minerals sector. According to the Ministry of Solid Minerals Development, the country had considerable mineral wealth and potential for the development of the additional minerals (Wall Street Journal, 1997). The federal administration was actively encouraging the diversification of the mineral industry (Nigeria Ministry of Solid Minerals Development, 1997). The Government was attempting to revive production of barite, kaolin, gold, marble, and tin, as well as formalizing operations at deposits that had been developed by unlicensed artisanal miners (Nigeria Ministry of Solid Minerals Development, 1996).

As part of the Nigerian Minerals Appraisal and Monetisation Program consortium, Behre Dolbear & Co. Inc. of the United States, AMTEC International Ltd. of France, and Global Minerals Ltd. of Nigeria compiled a formal data base of known mineral deposits in Nigeria. Behre Dolbear was preparing to evaluate designated deposits for the Government, which in turn proposed to develop any economically viable deposit by encouraging international mining companies to lease the prospect or to form joint ventures with state companies.

All minerals with significant production were produced by parastatal companies or joint-ventures with the Government. (See table 2.) The oil and gas sector accounted for 90% of U.S. investment in Nigeria. Since the Nigerian Investment Promotion Commission Decree was promulgated in 1995, international investors have been authorized to purchase stock in most local mineral companies; however, the petroleum sector was excluded. Nominally, total foreign equity ownership in the

petroleum sector was limited to 40% of each venture with the remainder held by the state-owned NNPC. Other major parastatal agencies were the Nigerian Coal Corp., the Nigerian Mining Corp. and its subsidiaries, including Nigerian Barytes Mining and Processing Co. Ltd. and Gold Mining Co. Ltd.; the Nigerian Steel Development Authority; and a number of companies in which the Nigerian Mining Corp. has equity interest, including Consolidated Tin Mines Ltd., Cross River Limestone Co. Ltd., Jakura Marble Industry Ltd., Makeri Smelting Co., Ltd., Nigeria Uranium Mining Co. Ltd., Nigerian Diatomite Co. Ltd., and Nigerian Marble Mining Co. Ltd.

The Government announced that it was arranging new petroleum joint ventures with NNPC and China National Petroleum Corp., Petronas Bhd. of Malaysia, and the Daewoo Corp. of South Korea (Africa Energy & Mining, 1996). During October 1996, the Finance Ministry proposed to gradually divest the Government's stake in oil joint-venture operations, to privatize the country's four refineries, to spin off the state power companies, and to authorize two privately owned petroleum refineries dedicated to exporting output.

The proposed October 1996 commissioning of the Aluminum Smelter Co. of Nigeria (Alscon) smelter was postponed until 1997. The delay was attributed initially to the need to dredge the Imo River and subsequently to difficulties in obtaining a contract on an alumina supply. The two-pot-line 180,000-metric-ton-per-year (t/yr) smelter at Ikot Abasi, Cross River State, was owned by the Nigerian Government, 70%; Ferrostaal AG of Germany, 20%; and Reynolds International of the United States, 10%. The company intended to initially import up to 375,000 t/yr of bauxite from Guinea and subsequently to process locally produced bauxite as the domestic industry develops. Reynolds Metals Co. of the United States was to purchase Alscon's projected exports of 140,000 t/yr of primary aluminum (Reynolds Metals Co., 1997).

The Nigerian steel industry comprised Delta Steel Co. Ltd. at Aladja, near Warri, and the under-construction Ajaokuta Steel Complex at Ajaokuta. Additionally, there were rolling mills at Jos, Katsina, and Oshogbo. The Ajaokuta plant was not completed in 1996, and Delta Steel reportedly was idle from May 1996 through the end of the year (Metal Bulletin, 1997a).

The Government reinstated its ban on gypsum imports in mid-1996 as an incentive to develop the Nigerian gypsum industry. Additionally, the Government prohibited imports of barite and kaolin in June 1996 and petroleum products imports in September 1996. Also during 1996, the Ministry of Petroleum Resources introduced regulations to increase oilfield employment opportunities for Nigerian citizens and to reduce expatriate staff. NNPC joint-venture partnerships were required to award oilfield service contracts to Nigerian-registered companies. The Ministry also declared that NNPC joint-venture partnerships would be required to utilize offshore production platforms fabricated in Nigeria (Journal of Petroleum Technology, 1997). The Government also authorized the Ministry to reclaim marginal, nondeveloped properties of joint ventures of the NNPC and multinational oil companies and to reassign them to small local companies. Approximately 183 fields were identified as marginal (World Oil, 1997).

Of the natural gas produced in Nigeria, about 79% was flared and 9% marketed, while another 9% was reinjected. The remainder was used in the field for power generation. When the oil industry infrastructure was being installed in the 1960's and 1970's, there was no domestic demand for Nigerian natural gas. Cheap oil further undercut any economic incentives to build gas infrastructure in the Delta region. Because no facilities were initially built to collect, treat, compress, and transport the low-pressure associated gas produced with the oil, excess gas has been flared for the past 40 years. Nigerian gas flares have become an international environmental issue.

The traditional lack of natural gas demand in Nigeria was beginning to change. Recent legislation increasingly encouraged local consumption or the reinjection of gas into producing reservoirs as opposed to flaring. Additionally, the royalty rate for onshore gas production was set at 7% compared with 20% royalty for onshore crude petroleum production. Offshore, the rates were 5% for gas and 18.65% for oil.

During 1996, only Nigeria Gas Co. (NGC), a unit of NNPC, bought gas from producers. The primary supply was nonassociated gas produced by Shell Petroleum Development Co. of Nigeria Ltd. (Shell Nigeria), the largest oil producer in the country. NGC sold most of its gas to Nigeria Electric Power Authority powerplants and to the National Fertilizer Co. of Nigeria in Onne.

Mobil Producing Nigeria Unlimited and NNPC planned a joint venture for estimated \$810-million offshore natural gas liquids (NGL's) extraction facility to process associated gas produced with condensate at the Oso Field. Recovered liquids were to be piped 67 kilometers (km) to Bonny Island, where up to 50,000 barrels per day (bbl/d) of NGL's would be separated into propane, butane, and pentane. Processed gas would be reinjected to maintain reservoir pressure in the Oso Field.

Nigeria Liquefied Natural Gas Ltd. (Nigeria LNG) suffered another setback in December 1996 when ENEL SpA, the Italian electrical utility, canceled its contract to take about one-half of the output from Nigeria LNG's proposed 5.78-million-metric-ton-per-year-capacity<sup>1</sup> liquefied natural gas (LNG) liquefaction plant at Finima on Bonny Island. ENEL was unable to obtain permission to build a LNG terminal at Montalto di Castro, Italy. Environmental resistance caused ENEL's proposed secondary site at Monfalcone, Italy, to be abandoned also. With Enagas of Spain contracted for 1.66 billion cubic meters per year (billion m<sup>3</sup>/yr) of natural gas, Gaz de France committed to take 1.2 billion m<sup>3</sup>/yr, and Botas of Turkey to import 200 million m<sup>3</sup>/yr, Nigeria LNG was continuing with the \$4-billion Finima project. NNPC held 49% of the Finima project, with Royal Dutch/Shell Group of the Netherlands and the United Kingdom owning 25.6%, Elf Nigeria Ltd. holding 15%, and Azienda Generali Italiana Petroli SpA. (Agip) of Italy with 10.4%.

Shell Nigeria was building a gas processing plant at Soku, Rivers State, to supply approximately 13 million cubic meters per day (Mm<sup>3</sup>/d) of natural gas to the Nigeria LNG plant at

---

<sup>1</sup>Upon regasification at the discharge terminals, the proposed annual plant output will be equivalent to 7.15 billion cubic meters of liquefied natural gas.

Finima. Gas will come from the Soku, Ekulama, and Nembe Creek oilfields (Shell Nigeria, 1996). Finima was also to receive gas from Agip and Elf.

Shell Nigeria will be supplying approximately 3 Mm<sup>3</sup>/d of gas to the Alson smelter at Ikot Abasi. Shell Nigeria was investigating demand for gas at a number of additional industrial projects. Furthermore, Shell Nigeria planned to increase the volume of associated gas it reinjected into producing fields, and the company was curtailing production from high gas-oil ratio wells (Shell Nigeria, 1997b).

Chevron Nigeria Ltd. and NNPC continued construction of a liquefied petroleum gas extraction plant at Escravos. The plant will process gas from the Okam and Mefa Fields to recover propane and butane. The proposed West African Gas Pipeline to Benin, Togo, and Ghana was targeted as a customer for the plant's natural gas to supplement sales to NGC.

Production of crude petroleum remained stable. Most production was from relatively small onshore fields in the southern part of the country in the delta of the Niger River, with nearly all the rest produced from offshore wells. Oil exploration activity had moved offshore.

Nigeria had four oil refineries—one in Kaduna, two in Port Harcourt, and one in Warri—with a combined capacity of 445,000 bbl/d. All refineries were producing below capacity. Refinery problems were attributed to various causes, including general inefficiency, poor maintenance, poor management, sabotage, and spare parts shortages. Additionally, product pipelines to population centers in the interior were damaged repeatedly when fuels were illegally diverted from the pipelines.

Partially in response to the international attention attracted by the environmental problems of the Delta region, Shell Nigeria accelerated its facilities replacement program and replaced a number of flowlines in the Delta swamps during 1996. Shell Nigeria suffered approximately 320 oil spills in 1996 with losses of about 25,000 barrels attributed to 100 sabotage acts. Corrosion and operational incidents accounting for 220 spills totaling approximately 13,000 barrels (Shell Nigeria, 1997a). Under Nigerian law, oil companies did not pay compensation for spills caused by sabotage; however, companies often were forced to pay local communities to allow cleanup teams access to vandalized sites. In addition to environmental problems directly attributable to the mineral industry, such as the oil spills and gas flares, Nigeria's environment was affected by deforestation, soil erosion, and overintensive farming attributed to the rapidly expanding population of the Delta region.

The indigenous population of the delta directed a wide range of demands at operating companies for electricity, employment, flood walls, road building, schools, and potable water supply. Companies were subject to anti-Federal Government protests in addition to sabotage, vandalism, and general violence directed at their facilities and staff.

The Nigerian railway system consists of 3,510 km of 1.067-meter-gauge track. The two main north-south lines, from Lagos to Kano (1,126 km) and from Port Harcourt to Maiduguri (1,443 km), were connected by a 179-km east-west line from Kaduna to Kafanchan. Lines such as the Ajaokuta-Port Harcourt spur were used to transport goods and mineral commodities to

ports. China had agreed to fund a \$250-million project to renovate the railway system (The Economist, 1996a). Roads totaled about 143,000 km. The roads were generally in poor condition because they were heavily used and poorly maintained. Inland waterways of about 9,000 km consisted mainly of the Niger and Benue Rivers; these also served as routes for commodity transport. Major ports from west to east included Apapa and Tin Can Island in Lagos, Koko near Warri, Port Harcourt, and Calabar.

Development of other nonfuel minerals would broaden the country's industrial base. The Government's fiscal and financial incentive programs were designed to attract local and foreign investors into new investments in the mineral industry. However, the country's reputation for civil strife, corruption, fraud, political uncertainty, and the threat of international sanctions apparently tempered international investor's interest (Economist, 1996b; Goldman, 1997b; Knott, 1997; Metal Bulletin, 1997b; Wall Street Journal, 1997). Petroleum was expected to continue to dominate the economy for the foreseeable future, despite reduced funding of NNPC by the Government that resulted in NNPC's deferral of payments for its share of joint-venture operations. Continued deferral of NNPC payments could result in significantly reduced petroleum exploration and field development, and could adversely affect the Government's target of increasing crude oil production by 50% by the turn of the century (Corzine, 1997).

The Government proposed to eliminate natural gas flaring by 2010. With the development of the export and local industrial markets, natural gas could eventually approach oil's importance to the Nigerian economy. The utilization of Nigerian natural gas could provide a reliable energy source for the West African region and a feedstock for the Nigerian chemical and petrochemical industries. Completion of the West African gas pipeline would provide Nigeria with additional revenue and regional goodwill.

Major changes in Government policy and programs could affect industrial development, particularly the nonfuel minerals industry. Successful development of the aluminum sector could enhance the growth of peripheral industries and would provide needed jobs for the labor force. Revitalization of the coal industry could provide an additional source of foreign exchange when fully exploited. The mineral industry as a whole should continue to enjoy considerable growth because of increasing activity in the mineral fuels sector.

## References Cited

- Africa Energy & Mining, 1996, Privatization for oil industry?: Africa Energy & Mining, no. 190, October 9, p. 2.
- Corzine, Robert, 1997, Nigerian oil funding crisis deepens: London, Financial Times, August 8, 1997, p. 4.
- Economist, The, 1996a, Hallo, China—or is it Taiwan?: The Economist, v. 340, no. 7983, September 14, p. 44.
- 1996b, Abacha wins: The Economist, v. 341, no. 7991, November 9, p. 46.
- Energy Information Administration, 1997a, International Petroleum Statistics Report—August 1997: Washington, D.C., Energy Information Administration, DOE/EIA-0520(97/08), p. 4-6.
- 1997b, Petroleum Supply Annual 1996: Washington, DC, DOE/EIA-0520(97/08), 599 p.

- Goldman, Antony, 1997a, Nigeria's budget disappoints reformers: London, Financial Times, January 20, 1997, p. 4.
- 1997b, Nigeria shapes budget with eye to rural poor: London, Financial Times, January 23, 1997, p. 6.
- Journal of Petroleum Technology, 1997, Dateline—Nigeria: Journal of Petroleum Technology, v. 49, no. 1, p. 67.
- Knott, David, 1997, Interest grows in African oil and gas opportunities: Oil & Gas Journal, v. 95, no. 19, May, 12, p. 41-47.
- Metal Bulletin, 1997a, Another blow for Nigerian steel: Metal Bulletin, no. 8161, March 13, p. 36.
- 1997b, Nigeria's image stalls investments: Metal Bulletin, n. 8210, September 11, p. 9.
- Nigeria Ministry of Solid Minerals Development, 1996, Solid Minerals Development in Nigeria: Abuja, Nigeria, Ministry of Solid Minerals Development, 34 p.
- 1997, Brief on Nigeria's mining potentials: Abuja, Nigeria, Ministry of Solid Minerals Development, 17 p.
- OPEC Bulletin, 1996, Nigerian economy grew by 2.2 per cent in 1995: OPEC Bulletin, v. 27, n. 10, p. 58 .
- Reynolds Metals Company, 1997, Form 10-K for period ending December 31, 1996: Securities and Exchange Commission, no pagination. (Accessed September 5, 1997, on the World Wide Web at URL <http://www.sec.gov/cgi-bin/srch-edgar/> via keyword Reynolds+ADJ+Metals)
- Shell Nigeria, 1996, Shell joint venture to reduce gas flaring in Nigeria: Shell Petroleum Development Co., October 18, 1996, 1 p. (Accessed September 9, 1997, on the World Wide Web at URL <http://www.shellnigeria.com/news/pr119.html>)
- 1997a, Annual report 1996: Shell Petroleum Development Co., July 23, 1997, 38 p. (Accessed September 9, 1997, on the World Wide Web at URL <http://www.shellnigeria.com/abshell/agm2.html>)
- 1997b, Harnessing gas: Shell Petroleum Development Co., May 1, 1997, 14 p. (Accessed September 9, 1997, on the World Wide Web at URL <http://europe.shellnigeria.com/abshell/harnessing.html>).
- U.S. Trade Representative, 1997, 1997 National Trade Estimate—Nigeria: U.S. Trade Representative, Washington, DC, p 281-285 (Accessed April 18, 1997, on the World Wide Web at URL <http://www.ustr.gov/reports/nte/1997/nigeria.pdf>)
- Wall Street Journal, 1997, Opportunities in the solid minerals sector: advertising supplement to the Wall Street Journal, April 21, 1997, p. D10.
- Washington Post, 1997, Central Bank of Nigeria—press statement on advanced fee fraud scam—you have been warned:, September 3, 1997, p A21.
- World Oil, 1997, Nigeria: World Oil, v. 218, no. 8, p. 118.

## Other Sources of Information

### Ministry of Solid Minerals Development

New Secretariat Complex  
Annex 3, 5th Floor  
Abuja, Nigeria

### Nigerian National Petroleum Corporation

NNPC Building Falomo  
Lagos, Nigeria  
Telephone: (234) 1-261-4650

TABLE 1  
NIGERIA : PRODUCTION OF MINERAL COMMODITIES 1/

(Metric tons unless otherwise specified)

Commodity 2/	1992	1993	1994	1995	1996 e/
<b>METALS</b>					
Columbium and tantalum concentrates:					
Gross weight e/	90 r/	40	30	30	30
Columbium content	38 r/	17	17 r/	13 e/	13
Gold grams	1,800	1,400	4,800	5,000 e/	6,000
Iron and steel: e/					
Iron ore, gross weight thousand tons	400	400	400	168	100
Steel, crude do.	200	150	105 3/	36	20
Lead, metal, refined e/ do.	5	5	4	4	4
Tin:					
Mine output, cassiterite concentrate:					
Gross weight e/	568 3/	200 r/	278	600 r/	3,000
Sn content	415	175 r/	185	500 r/ e/	2,200
Metal, smelter	370	169 r/	179	400 r/ e/	2,000
<b>INDUSTRIAL MINERALS</b>					
Cement, hydraulic thousand tons	3,200 e/	3,200 e/	2,600	3,000	3,000
Clays: e/					
Kaolin	1,300	1,300	105,000 3/	105,000 3/	105,000
Unspecified	60,100	60,100	104,000 r/	100,000 r/	100,000
Feldspar e/	700	700	1,000 r/	1,000 r/	1,000
Nitrogen: e/					
N content of ammonia thousand tons	337 3/	350	350	350	400
N content of urea do.	486 3/	400	400	400	500
Stone:					
Limestone do.	1,400	1,400 e/	2,700	2,700 e/	2,700
Marble do.	11 r/	3 r/	8 r/	8 r/	10
Shale do.	87 r/	195 r/	32 r/	500 e/	500
Topaz 4/ kilograms	1,677	834	1,022	1,000 e/	1,500
<b>MINERAL FUELS AND RELATED MATERIALS</b>					
Coal, bituminous e/ do.	86 r/ 3/	50 r/	130 r/	22	30
Gas, natural: e/					
Gross million cubic meters	32,000 3/	31,300	34,000 r/	35,000	37,000
Dry do.	2,897 3/	2,600	4,600 r/	5,000 r/	6,000
Petroleum:					
Crude thousand 42-gallon barrels	710,000	748,000	743,500	740,000	756,000
Refinery products:					
Gasoline do.	33,200	30,800	23,000 r/	20,500 e/	23,000
Jet fuel e/ do.	2,500	500	500	1,000	1,000
Kerosene do.	12,000	14,500	12,000 r/	7,500 e/	10,000
Distillate fuel oil do.	22,000	15,500	22,000 r/	16,000 e/	20,000
Residual fuel oil do.	18,600	800	20,000 r/	13,500 e/	18,000
Unspecified do.	8,700	1,000	13,500 r/	1,500 e/	8,000
Total do.	97,000	63,100	91,000	60,000 e/	80,000

e/ Estimated. r/ Revised.

1/ Includes data available through Sept.12, 1997.

2/ In addition to the commodities listed, amethyst, aquamarine, barite, diamond, emerald, garnet, granite, gypsum, phosphate rock, sapphire, soda ash, talc, tourmaline, zinc, zircon, and a variety of crude construction materials (stone, sand and gravel) are produced; but information is inadequate to estimate output.

3/ Reported figure.

4/ Exports.

TABLE 2  
NIGERIA: STRUCTURE OF THE MINERAL INDUSTRY FOR 1996

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Cement		West Africa Portland Cement Co. (Associated	Ewekoro	750.
		International Cement, 39.4%; Odu'a, 26.8%; public, 17.2%; Government, 16.6%)	Shagamu	600.
Coal		Nigerian Coal Corp. (Government, 100%)	Enugu	150.
Iron ore		National Iron Ore Mining Co. (Government, 100%)	Itakpe, near Okene	1,300.
Iron and steel		Ajaokuta Steel Co. Ltd. (Government, 100%)	Ajaokuta	(1/)
		Delta Steel Co. Ltd. (Government, 100%)	Aladja	1,000.
		Jos Steel Rolling Co. Ltd. (Government, 100%)	Jos	210.
		Katsina Steel Rolling Co. Ltd. (Government, 100%)	Katsina	210.
		Oshogbo Steel Rolling Co. Ltd. (Government, 100%)	Oshogbo	210.
Nitrogen		National Fertilizer Co. of Nigeria (Government, 63%; M.W. Kellogg, 37%)	Onne	548 N content of ammonia, and 360 N content of urea.
<b>Petroleum:</b>				
Crude	million 42-gallon barrels	Nigerian National Petroleum Corp. (NNPC) joint ventures (Government, 60%; private, 40%) 2/	Niger River delta	760.
Refinery products	do.	New Port Harcourt refinery (Government, 100%)	Port Harcourt	55.
	do.	Warri refinery (Government, 100%)	Warri	43.
	do.	Kaduna refinery (Government, 100%)	Kaduna	38.
	do.	Old Port Harcourt refinery (Government, 100%)	Port Harcourt	22.
Tin		Makeri Smelting Co. Ltd. (Government, 100%)	Jos	2.

1/ Construction of the 1.2-million-metric-ton-per-year plant was stalled.

2/ Includes, in order of volume, Shell Nigeria joint venture (NNPC, 55%; Royal Dutch/Shell Group, 30%; Elf Nigeria Ltd., 10%; and Agip SpA, 5%), Chevron joint venture (NNPC, 60% and Chevron Nigeria Ltd., 40%), Mobil joint venture (NNPC, 60% and Mobil Producing Nigeria Unlimited, 40%), Agip-Phillips joint venture (NNPC, 60%; Agip SpA, 20%, and Phillips Oil Co. Ltd. of Nigeria, 20%), Elf joint venture (NNPC, 60% and Elf Group, 40%), Texaco/Chevron joint venture (NNPC, 60%, Texaco Inc., 20%, and Chevron Nigeria Ltd., 20%), and NNPC petroleum sharing contracts with the Ashland Nigeria Exploration Unlimited-Total Exploration Nigeria Ltd. joint venture and with Agip Energy.